

WHAT IS CLAIMED IS:

1. A method for preparing a surface-modified calcium carbonate comprising the step of:

forming a glycol dispersion comprising calcium carbonate particles and a monomeric bi-functional reagent having two functional linking substituents consisting of a first substituent which can link to the calcium carbonate particles and a second substituent which can link to a polyester, whereby the first substituent of the bi-functional reagent reacts to bond the bi-functional reagent to the calcium carbonate particles.

2. A method as defined in Claim 1 wherein the first substituent comprises an acid group.

3. A method as defined in Claim 1 wherein the first substituent comprises a carboxy or a phosphino radical.

4. A method for preparing a surface-modified calcium carbonate comprising the step of:

forming a glycol dispersion comprising calcium carbonate particles and a monomeric bi-functional reagent having two functional linking substituents consisting of a first substituent which can link to the calcium carbonate particles and a second substituent which can link to a polyester, whereby the first substituent of the bi-functional reagent reacts to bond the bi-functional reagent to the calcium carbonate particles, characterized in that the bi-functional reagent is selected from the group consisting of gluconic, malic and tartaric acids.

5. A method as defined in Claim 1 wherein the dispersion is formed in ethylene glycol.

6. A method for preparing a surface-modified calcium carbonate comprising the steps of:

forming a dispersion in ethylene glycol of calcium carbonate particles and a monomeric bi-functional reagent having first and second linking substituents, the first linking substituent being an acid group which can react to chemically bond to calcium carbonate particles; and a second linking substituent being a hydroxyl group which can react to chemically bond to a polyester, whereby the bi-functional reagent in the dispersion is bonded to the surface of the calcium carbonate particles through the acid group.

7. A method as defined in Claim 6 wherein the acid group comprises a carboxy radical.

8. A method for preparing a surface-modified calcium carbonate monomer comprising the steps of forming a dispersion in ethylene glycol of calcium carbonate particles and a monomeric bi-functional reagent having first and second linking substituents, the first linking substituent being an acid group which can react to chemically bond to the calcium carbonate particles ; and the second linking substituent having a hydroxyl group which can react to chemically bond to q polyester, whereby the bi-functional reagent in the dispersion is bonded to the surface of the calcium carbonate particles through the acid group, characterized in that the bi-functional reagent is selected from the group consisting of gluconic, malic and tartaric acids.

9. A process as defined in Claim 6 including the step of milling the calcium carbonate in the ethylene glycol to reduce the particle size of the calcium carbonate particles to a mean particle size no greater than about 2.50 microns.

10. A surface-modified calcium carbonate monomer prepared by the process defined in Claim 6.

11. A surface-modified calcium carbonate monomer prepared by the process defined in Claim 9.

12. A surface-modified calcium carbonate monomer comprising particles of calcium carbonate having a monomeric bi-functional reagent chemically bonded to their surface through one functional substituent of the bi-functional reagent, the other functional substituent of the bi-functional reagent being adapted for chemically bonding to polyester.

13. A surface-modified calcium carbonate as defined in Claim 12 wherein the one functional substituent comprises an acid group.

14. A surface-modified calcium carbonate comprising particles of calcium carbonate having a monomeric bi-functional reagent chemically bonded to the surface of the particles through one functional substituent of the monomeric bi-functional reagent, the other functional substituent being for chemically bonding to polyester, whereby to bond the calcium carbonate particles to polyester through the bi-functional reagent, characterized in that the monomeric bi-functional reagent is selected from the group consisting of gluconic acid, malic acid and tartaric acid.

15. A surface-modified calcium carbonate monomer as defined in Claim 14 wherein a polyester is bonded to the other substituent of the bi-functional reagent, thereby linking the calcium carbonate particles to the polyester through the bi-functional reagent.